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WATER SUPPLY OUTLOOK FOR IDAHO



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CURRENT SERIAL RECORDS

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

IDAHO DEPARTMENT OF WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF
JAN. 1, 1978

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SOME OF THE DATA IN THIS REPORT HAVE BEEN RECEIVED THROUGH THE SOIL CONSERVATION SERVICE'S NEW SNOTEL SYSTEM WHICH TRANSMITS INFORMATION VIA THE SPACE AGED METEOR BURST METHOD FROM DATA SITES TO MASTER STATIONS LIKE THESE.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W., Calgary, Alberta T3C 1A6.



WATER SUPPLY OUTLOOK for IDAHO

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

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In Cooperation with
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WATER SUPPLY OUTLOOK for IDAHO



GENERAL SUMMARY FOR JANUARY 1, 1978

January 1 snow surveys indicate that the snowpack is generally normal to well above normal throughout the state. The exception is a small area in Northeastern Idaho in the Medicine Lodge Creek and Mud Lake drainages where the snowpack is less than 80 percent of average. The Owyhee, Bruneau and Salmon Falls Creek watersheds south of the Snake River are slightly above normal, ranging from 104 to 108 percent of average. All other drainages in the state are more than 20 percent above average, ranging from 120 percent of normal on the Big Wood and Henry's Fork watersheds to a high of 169 percent of average on the Montpelier Creek drainage in Southeastern Idaho.

In general temperatures were near to below normal throughout Idaho during October, near to below normal in Northern Idaho and above normal for the remainder of the state during November, and above normal throughout December.

Valley precipitation throughout Idaho was below normal in October, increasing through November with exceptionally high precipitation during December. As of January 1, accumulative valley precipitation for the October through December period was normal to well above average throughout Idaho.

Streamflow in the spring of 1977 was at an all time low, however timely summer rains alleviated the situation and by October 1, streamflow

though generally deficient was no longer in the lowest of record category. The heavy precipitation and relatively warm temperatures during December resulted in dramatically increased runoff and many streams such as the Coeur d'Alene, Clearwater, Salmon, Weiser, Boise and Upper Snake were flowing well above normal, some almost to flood stage.

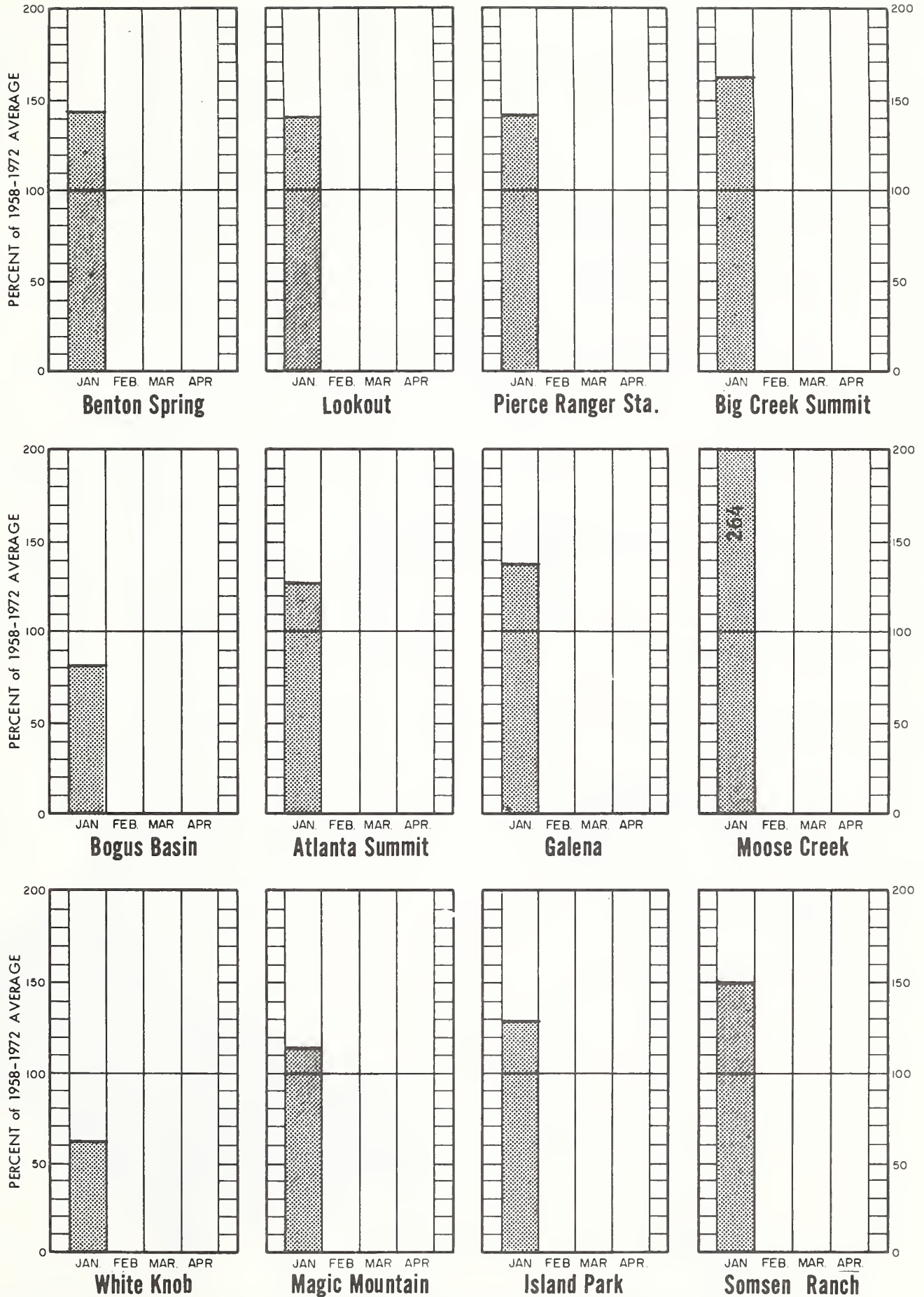
Carry-over storage as of October 1, 1977 was at an all time low. The increase in runoff in the fall and particularly during December has greatly improved the situation. If the present trend continues in a normal pattern, most reservoirs should fill and natural flows hold up well into the summer of 1978.

SNOW WATER DEPTHS ACCUMULATION

For Selected Snow Courses

As Compared To 1958-1972 15 Yr. Average

JANUARY 1, 1978



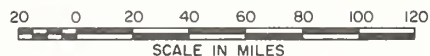
COMPARISON of SNOW COVER

RIVER BASIN WATERSHED	NO.OF COURSES AVERAGED	THIS YEARS SNOW WATER EXPRESSED AS PERCENT OF :	
		LAST YEAR	1958-72 AVERAGE
<u>UPPER COLUMBIA RIVER BASIN</u>			
Kootenai River	4	260	128
Pend Oreille River	33	370	152
Clark Fork River	15	417	153
Flathead River	9	277	131
Priest River	4	424	130
Spokane River	2-4	382	127
<u>LOWER SNAKE RIVER BASIN</u>			
Clearwater river	3-10	370	130
Salmon River	10-12	1192	142
<u>MIDDLE SNAKE RIVER BASIN - Northside</u>			
Little Wood River	2	--	133
Big Wood River	4-6	2552	120
Boise River	8-9	1430	123
Payette River	8-11	1190	124
Weiser River	1	1475	120
<u>MIDDLE SNAKE RIVER BASIN - Southside</u>			
Raft River	1	--	143
Salmon Falls Creek	7	--	106
Bruneau River	4	--	108
Owyhee River - Jordan Creek	2	--	104
<u>UPPER SNAKE RIVER BASIN</u>			
Snake Basin - Wyoming	10	780	159
Henrys Fork River	6-7	637	120
Teton River	2-9	576	125
Blackfoot River	1-2	319	150
<u>GREAT BASIN</u>			
Montpelier Creek	4	299	169

SNOW WATER DEPTHS

As percent of 1958'-72 15 year average
JANUARY 1, 1978

IDAHO



LEGEND



Less than 80 percent of average

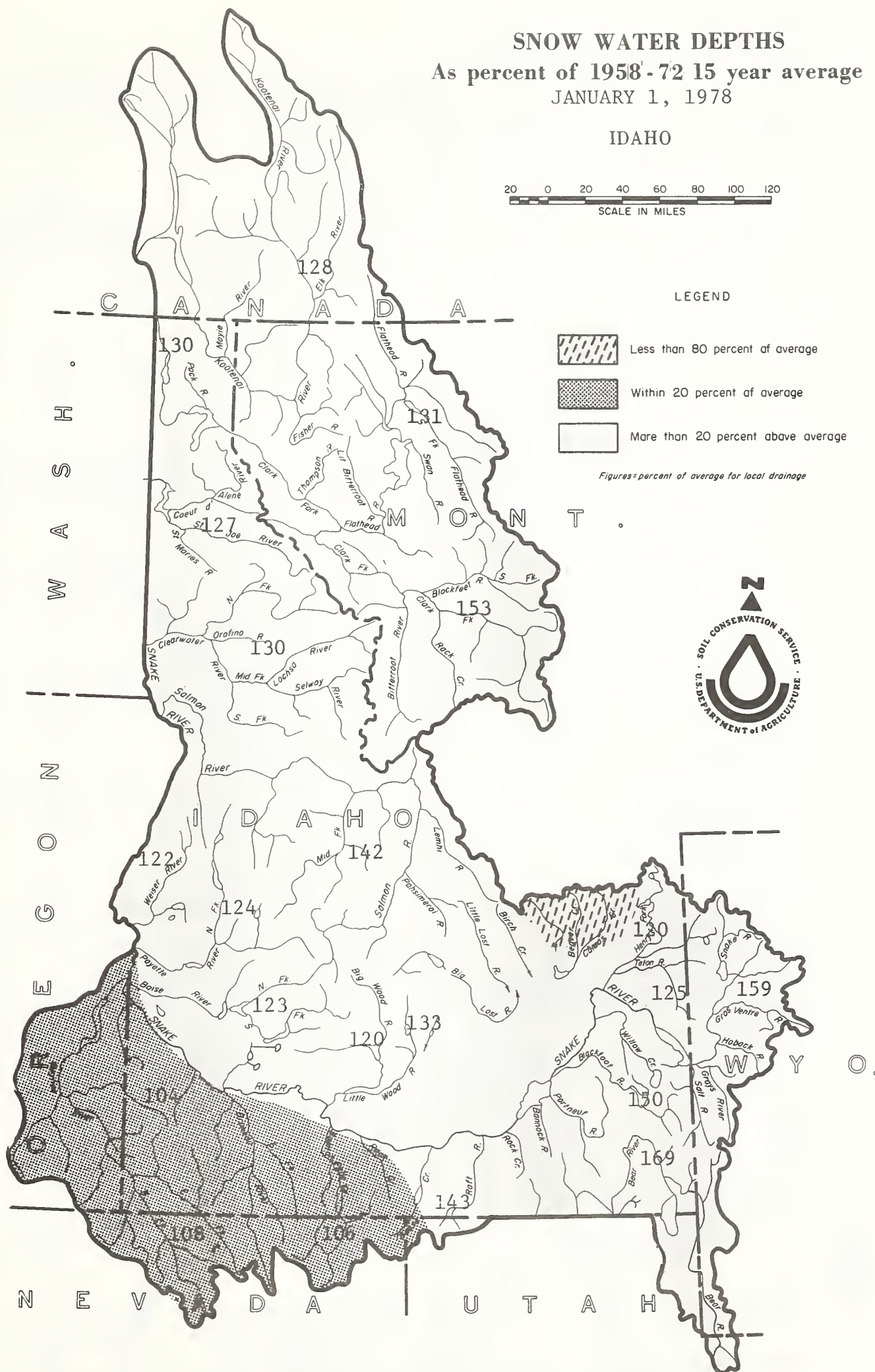


Within 20 percent of average



More than 20 percent above average

Figures=percent of average for local drainage



RESERVOIR STORAGE (1,000 Ac. Ft.)

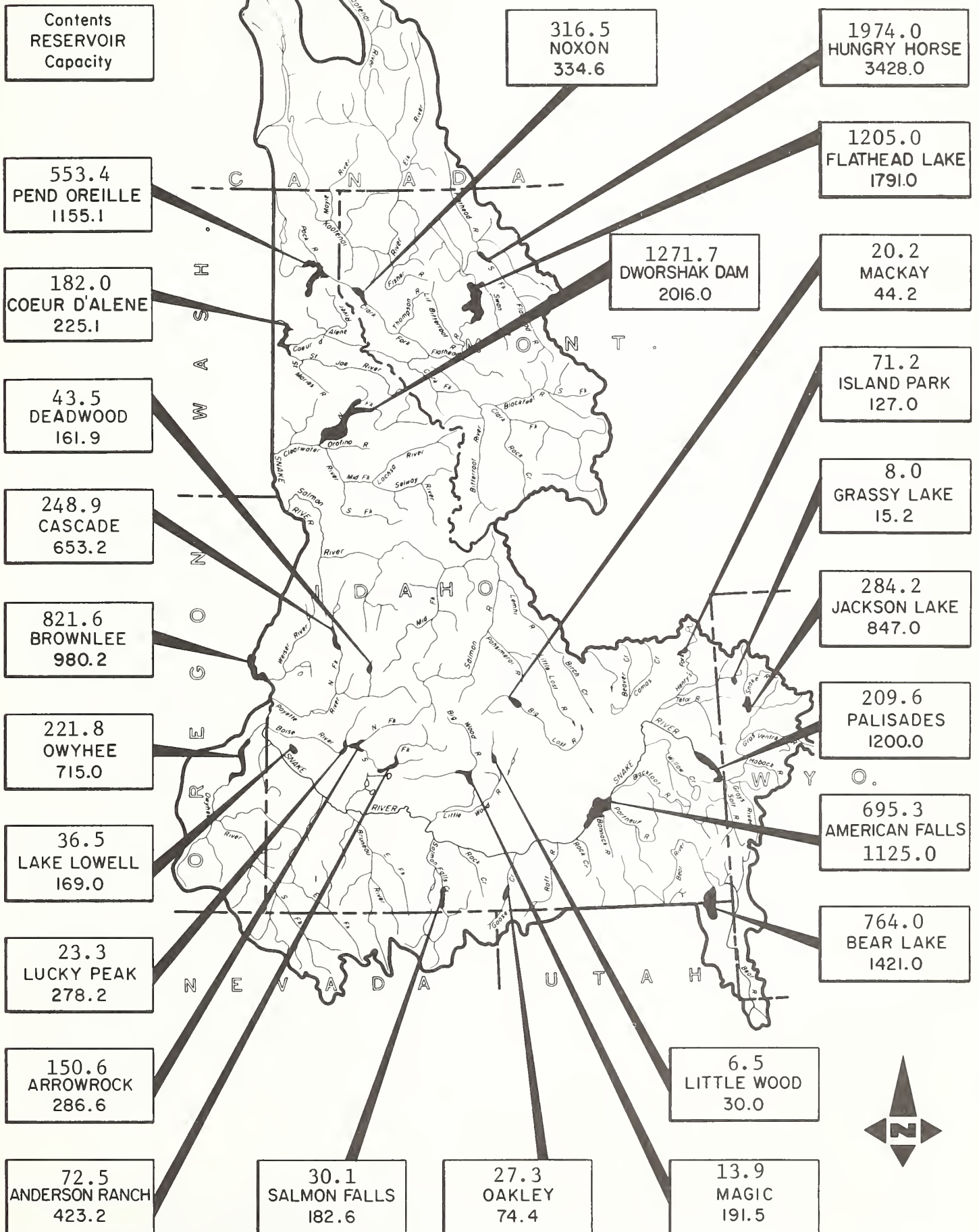
RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1958-72 AVERAGE
<u>UPPER COLUMBIA BASIN</u>				
<u>Clark Fork - Pend Oreille</u>				
Hungry Horse	3428.0	1974.0	2650.0	2766.0
Flathead	1791.0	1205.0	1254.0	1423.0
Pend Oreille	1155.1	553.4	150.7	431.2
Noxon	334.6	316.5	322.4	325.5
<u>Spokane</u>				
Coeur d'Alene	225.1	182.0	56.2	138.2
<u>SNAKE BASIN</u>				
<u>Snake</u>				
Jackson Lake	847.0	284.2	575.8	531.5
Palisades	1200.0	209.6	1072.5	751.3
American Falls	1125.0	695.3	766.1	448.4
Island Park	127.0	71.2	100.9	82.0
Grassy Lake	15.2	8.0	10.4	9.6
Brownlee	980.2	821.6	834.0	792.7*
<u>Goose-Trapper Creeks</u>				
Oakley	74.4	27.3	42.0	12.6
<u>Salmon Falls Creek</u>				
Salmon Falls	182.6	30.1	44.5	25.5
<u>Big Lost</u>				
Mackay	44.2	20.2	16.3	27.7
<u>Big Wood</u>				
Magic	191.5	13.9	60.0	88.5
<u>Little Wood</u>				
Little Wood	30.0	6.5	6.7	11.6
<u>Fish Creek</u>				
Carey Valley	14.4	1.0	4.3	--
<u>Boise</u>				
Anderson Ranch	423.2	72.5	343.9	278.0
Arrowrock	286.6	150.6	146.0	204.9
Lucky Peak	278.2	23.3	57.6	60.3
Lake Lowell (Deer Flat)	169.0	36.5	122.6	106.3
<u>Owyhee</u>				
Owyhee	715.0	221.8	469.7	406.8
<u>Payette</u>				
Cascade	653.2	248.9	402.1	354.0
Deadwood	161.9	43.5	78.9	68.0
<u>Weiser</u>				
Mann Creek	11.1	1.7	2.7	--
<u>Clearwater</u>				
Dworshak	2016.0	1271.7	1200.8	--
<u>GREAT BASIN</u>				
<u>Bear</u>				
Bear Lake	1421.0	764.0	1059.0	944.4
*Period of Record.				

RESERVOIR STORAGE

USABLE CONTENTS (1,000 Acre Feet)

JANUARY 1, 1978

50 0 50 100 150
SCALE IN MILES



SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average ^b

UPPER COLUMBIA RIVER BASINPEND OREILLE - PRIEST RIVER

Benton Meadow	2370	1/3	23	5.4	1.5	3.5
Benton Spring	4900	1/3	40	12.1	2.4	8.4
Schweitzer Bowl	4500	12/29	57	18.7	5.0	14.3*
Schweitzer Ridge	6100	12/29	78	26.2	5.8	21.6*

SPOKANE RIVER

Above Burke	4100	12/28	40	10.5	4.1	--
Fourth of July Summit	3200	12/28	14	2.9	0.0	4.1*
Lookout	5120	12/28	62	22.0	4.8	15.5
Sherwin	3200	12/30	28	5.8	1.9	--

LOWER SNAKE RIVER BASINCLEARWATER RIVER

Cayuse Airstrip	3700	12/28	24	4.9	1.6	5.5*
Crater Meadows	6100	12/28	73	21.7	7.1	--
Crooked Fork	3600	12/29	31	8.4	2.9	--
Fish Lake Airstrip	5000	12/28	68	20.6	6.3	17.6*
Hemlock Butte	5500	12/28	78	21.9	6.5	--
Lolo Pass	5240	12/29	62	19.8	4.4	11.7*
Lower Snowhaven	5300	12/30	42	9.6	2.0	--
Pierce Ranger Station	3170	1/5	28	6.4	2.4	4.5
Savage Pass	6170	12/29	59	18.2	3.9	--
Shanghai Summit	4600	12/28	46	12.0	3.1	--
Upper Snowhaven	5600	12/30	33	9.1	1.7	--

SALMON RIVER

Big Creek Summit	6600	1/1	76	22.4	1.8	13.8*
#Boulder Creek	5500	12/30	46	11.8	0.8	10.0*
Brundage Mountain	7560	12/28	85	26.5	2.2	18.6*
#Deadwood Summit	7000	12/27	86	27.1	1.7	24.4*
#Galena Summit	8795	12/27	53	13.9	1.0	10.4
#Gibbons Pass	7100	12/29	57	17.0	3.8	9.5
Mill Creek Summit	8870	12/29	44	12.9	1.0	10.5*
Moose Creek	6200	12/31	48	14.8	--	5.6*
Morgan Creek	7580	12/30	37	9.3	0.6	5.9*
#Rock Flat Summit	5200	12/28	36	8.7	1.0	6.8
#Secesh Summit	6520	12/31	67	20.7	1.7	--
#Squaw Meadow	5800	12/31	67	20.9	1.3	--
Vienna Mine	8960	12/27	78	23.4	1.1	--

(b) 1958-72, 15 year period. #Not located directly on this drainage. * Estimated 1958-72, 15 year Average. (A) Aerial observation Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average ^b

MIDDLE SNAKE RIVER BASIN - NORTHSIDEBIG LOST RIVER

Bear Canyon	7920	12/27	33	7.8	--	--
Copper Basin	7650	12/27	14	3.2	--	--
Fishpole Lake	9350	12/27	35	10.2	--	--
Lost-Wood Divide	7900	12/27	45	12.2	--	--
Stickney Mill	7500	12/27	18	3.8	--	--
White Knob	7700	12/29	12	2.2	0.0	3.6

LITTLE WOOD RIVER

#Bear Canyon	7920	12/27	33	7.8	--	--
Garfield Ranger Station	6554	12/28	23	5.7	--	4.4*
Muldoon	6300	12/28	18	4.4	--	3.2*
Swede Peak	7650	12/28	31	7.6	--	--

BIG WOOD RIVER

#Couch Summit	6950	12/29	30	8.1	--	7.4*
Galena	7300	12/27	49	11.0	0.0	8.0
Galena Summit	8795	12/27	53	13.9	1.0	10.4
Graham Ranch	6200	12/29	26	5.3	0.0	5.6
#Lost-Wood Divide	7900	12/27	45	12.2	--	--
Mascot Mine	7900	12/27	27	6.9	--	--
Mount Baldy	9000	12/30	40	10.4	--	8.8
Soldier Ranger Station	6100	12/29	22	5.5	--	5.2*
#Vienna Mine	8960	12/27	78	23.4	1.1	--

BOISE RIVER

Atlanta Summit	7500	12/27	68	19.3	0.7	15.2*
Bad Bear	5500	12/28	30	7.7	0.9	6.5*
#Bogus Basin	6120	12/29	26	7.5	1.7	9.3
Bogus Basin Road	5360	12/29	9	2.2	0.9	2.4*
Couch Summit	6950	12/29	30	8.1	--	7.4*
Graham Guard Station	5690	12/27	40	12.1	0.7	--
Jackson Peak	7000	12/27	65	18.8	1.0	--
Moore's Creek Summit	6100	12/28	63	19.5	1.9	13.0
#Soldier Ranger Station	6100	12/29	22	5.5	--	5.2*
Trinity Mountain	7780	12/27	75	26.1	0.5	19.1*
#Vienna Mine	8960	12/27	78	23.4	1.1	--

(b) 1958-72, 15 year period. #Not located directly on this drainage. * Estimated 1958-72, 15 year Average. (A) Aerial observation Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average ^b

PAYETTE RIVER

#Big Creek Summit	6600	1/1	76	22.4	1.8	13.8*
Bogus Basin	6120	12/29	26	7.5	1.7	9.3
#Brundage Mountain	7560	12/28	85	26.5	2.2	18.6*
Cozy Cove	5400	12/27	33	8.4	1.0	6.9
Crawford Ranger Station	4800	1/1	14	3.0	0.0	3.1*
Deadwood Airstrip	5440	12/27	28	7.4	--	6.6
Deadwood Summit	7000	12/27	86	27.1	1.7	24.4*
#Jackson Peak	7000	12/27	65	18.8	1.0	--
Lake Fork	6000	12/31	39	9.8	1.2	--
Rock Flat Summit	5200	12/28	36	8.7	1.0	6.8
Secesh Summit	6520	12/31	67	20.7	1.7	--
Squaw Meadow	5800	12/31	67	20.9	1.3	--

WEISER RIVER

Boulder Creek	5500	12/30	46	11.8	0.8	10.0*
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MIDDLE SNAKE RIVER BASIN - SOUTHSIDERAFT RIVER

Howell Canyon	8000	1/3	46	14.2	0.0	9.9
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SALMON FALLS CREEK

#Bear Creek (A)	Nev.	7800	1/3	34	10.2	--	7.5*
Cedar Creek (A)		7000	1/3	14	4.0	--	4.1*
Deadline		6900	12/29	32	9.6	--	8.7
Goat Creek	Nev.	8800	12/28	23	6.7	--	7.2*
#Hummingbird Springs	Nev. (A)	8945	1/3	35	9.5	--	9.0*
Magic Mountain		6700	12/29	26	7.8	--	6.9
#Pole Creek R. S.	Nev.	8330	12/28	23	6.4	--	7.7
Wilson Creek (A)		7500	1/3	15	3.5	--	--

BRUNEAU RIVER

Bear Creek (A)	Nev.	7800	1/3	34	10.2	--	7.5*
Hummingbird Springs	Nev. (A)	8945	1/3	35	9.5	--	9.0*
Pole Creek R. S.	Nev.	8330	12/28	23	6.4	--	7.7
#Seventy-six Creek	Nev. (A)	7100	1/3	24	6.7	--	6.2*

OWYHEE RIVER

#Bear Creek (A)	Nev.	7800	1/3	34	10.2	--	7.5*
#Seventy-six Creek	Nev. (A)	7100	1/3	24	6.7	0.0	6.2*
Silver City		6400	12/29	20	5.3	0.0	5.6*
South Mountain		6340	12/31	21	5.6	0.0	4.9*

(b) 1958-72, 15 year period. #Not located directly on this drainage. * Estimated 1958-72, 15 year Average. (A) Aerial observation Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average ^b

UPPER SNAKE RIVER BASINCAMAS-BEAVER CREEKS

Camp Creek	6800	12/29	11	2.0	0.0	4.3
Kilgore	6200				0.0	4.4*

HENRYS FORK RIVER

Big Springs		6400	12/29	38	11.0	1.8	7.8
Grassy Lake	Wyo.	7230	12/28	70	19.4	3.5	14.1
Island Park		6315	12/29	30	7.9	1.4	6.1
Sawtell Mountain		8720	12/29	52	15.0	1.5	14.0*
Targhee Pass		7000	12/29	25	6.3	2.0	6.5*
Valley View		6500	12/29	26	6.2	1.4	6.3
White Elephant		7700	12/29	46	12.6	0.7	--

TETON RIVER

Darby Canyon	Wyo.	8250	12/27	42	11.1	3.4	--
Freds Mountain	Wyo.	8150	12/27	56	14.6	2.9	--
Garns Mountain		8300	12/27	74	23.0	3.2	--
Indian Meadows	Wyo.	8240	12/27	75	20.6	3.8	--
Jackpine Creek	Wyo.	7350	12/27	42	11.2	1.4	--
McRenolds Reservoir		6800	12/27	34	8.7	1.1	--
Miles Creek	Wyo.	7300	12/27	30	7.8	1.5	--
Pine Creek Pass		6750	12/27	38	9.4	1.0	6.6*
State Line		6650	12/27	27	6.0	1.2	5.7

WILLOW CREEK

Aspen Grove		6600	12/28	16	4.2	--	--
Birch Creek		6800	12/28	13	3.6	--	--
Blue Ridge		6800	12/28	23	6.4	--	--
Bone		6200	12/28	9	2.1	--	2.6*
Brockman Station		6430	12/28	15	3.8	--	--
Hell Creek		7100	12/28	29	7.3	--	--
Sheep Mountain		6510	12/28	24	6.4	--	--
Tex Creek		6700	12/28	17	3.0	--	--

BLACKFOOT RIVER

Slug Creek Divide		7225	12/27	39	10.4	3.3	--
Somsen Ranch		7000	12/27	27	7.8	2.4	5.2*

(b) 1958-72, 15 year period. #Not located directly on this drainage. * Estimated 1958-72, 15 year Average. (A) Aerial observation Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average ^b

GREAT BASINBEAR RIVER

Emigrant Summit	7350	1/3	62	17.1	0.8	9.2*
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Montpelier Creek

Giveout	6840	12/28	30	7.8	2.8	4.6*
Little Beaver	6970	12/28	36	9.8	2.8	5.4*
Montpelier Creek	6570	12/28	21	5.2	1.7	3.5*
Whiskey Flat	6985	12/28	23	6.2	2.4	3.7*

Mink Creek

#Emigrant Summit	7350	1/3	62	17.1	0.8	9.2*
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Cub River

Cub River R. S.	5400	1/4	23	6.0	0.0	--
Willow Flat	6100	1/4	39	10.6	0.0	--

(b) 1958-72, 15 year period. #Not located directly on this drainage. * Estimated 1958-72, 15 year Average. (A) Aerial observation Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

Agencies and Organizations Cooperating in Idaho Snow Surveys

GOVERNMENT AGENCIES

States:

Idaho Department of Water Resources
State of Idaho Department of Fish and Game
University of Idaho
Idaho State University
Montana Agricultural Experiment Station
Montana State Water Conservation Board
Montana Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon Cooperative Snow Surveys
Oregon State Engineer and Corps of
State Watermasters
Utah Cooperative Snow Surveys
Wyoming Cooperative Snow Surveys

Federal:

U.S. Army Engineers

U.S. Department of Agriculture
Forest Service
Agricultural Research Service
Statistical Reporting Service

U.S. Department of Commerce
NOAA, National Weather Service

U.S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Water Resources Division, Geological Survey
National Park Service
Bureau of Land Management

PUBLIC UTILITIES

The Montana Power Company
Washington Water Power Company
Idaho Power Company
Utah Power and Light Company

ORGANIZED PUBLIC AGENCIES

Big Lost River Irrigation District
Blaine Soil Conservation District
Boise Project Board of Control
Idaho Water District #01
Little Wood River Irrigation District
Mann Creek Irrigation District
Salmon Falls Creek Irrigation Company
Twin Falls Soil Conservation District
Big Wood Irrigation Company
Owyhee Project - North & South Board of Control
Valley Soil Conservation District
Portneuf Soil and Water Conservation District

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